

## Attachment J-C20.3

National Aeronautics and  
Space Administration

John H. Glenn Research Center  
Lewis Field  
Cleveland, OH 44135-3191



February 8, 2013

Reply to Attn of: QS

Call Henry, Inc.  
Attn: Christopher Logan  
21000 Brookpark Road, MS 107-1  
Cleveland, OH 44135

Subject: Central Natural Gas System Operations and Maintenance (#001-01-07P) Safety Permit

Enclosed are an original and a copy of the safety permit covering the subject activity. In accordance with the Glenn Safety Manual, Section 1.A.7.5, you are responsible for the following:

1. Have the original copy of the safety permit posted at the permit area site.
2. Ensure that all conditions listed on the permit are followed and provide required documentation to PSSC. Failure to comply with the procedures and operating conditions found on the safety permit, and of any accompanying documentation, may result in termination of the operation by the Safety Committee Chair and/or the Institutional Chief Safety Officer.
3. Discuss the requirements of this safety permit with the project team and qualified operators.
4. Keep the PSSC apprised of new hazards and of any changes affecting this activity in purpose, design, operations, procedures, operational limits and constraints, qualified operators, information or supporting documentation from the original Safety Permit Request.
5. Upon completion of the activity, initiate close out of the permit in accordance to Section 1.A.7.6 of the Glenn Safety Manual.

A handwritten signature in black ink, appearing to read "Osvaldo Rivera".

Osvaldo Rivera, Chair  
Process Systems Safety Committee

3 Enclosures:

1. NASA C-919
2. NASA C-580
3. NASA C-590

cc:

FD/J. J. Onest

FDS/L. J. Schroeder

FDS/R. M. Puzak

CHI/B. G. Flowe

<b>SAFETY PERMIT</b>	NATIONAL AERONAUTICS AND SPACE ADMINISTRATION GLENN RESEARCH CENTER CLEVELAND, OHIO	Date Issued (mm/yyyy) <b>02/2013</b>	Expiration Date (mm/yyyy) <b>01/2015</b>
	TITLE: Central Natural Gas System Operations and Maintenance (Limited to 70 characters including blank spaces)		
PERMIT NUMBER: <b>001-01-07P</b>	LOCATION OF ACTIVITY: <b>GRC, Labwide</b> (Indicate facility name, number, cell)		

### EMERGENCY CONTACTS

Name (Knowledgeable person): Donald K. Musick	Work Phone: (216) 433-5737	Home Ph: (216) 533-6866
Name (Alternate contact): Chris Logan	Work Phone: (216) 433-5614	Home Ph: (440) 328-6813

☒ This permit covers identified PV/S. All required PV/S component (vessels, relief devices, etc.) have been identified and are in the GRC Pressure Systems Database (PSD). The PV/S RAC(s) have been assessed by the Pressure Systems Office (PSO) and are approved to be of acceptable risk. The PSO RAC acceptance letter and PV/S RAC assessment summary is attached.

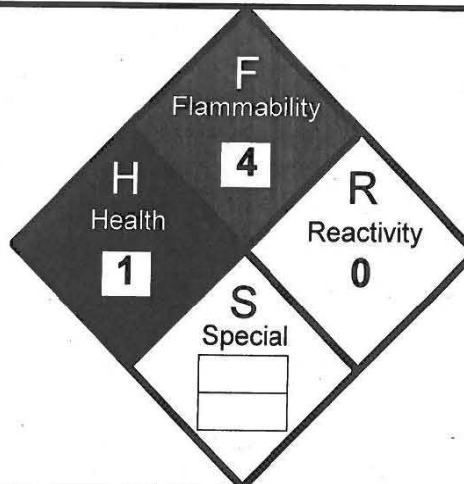
### ACTIVITY DESCRIPTION:

Operations and maintenance of the GRC Central Natural Gas Distribution System per CE-11704 and Bldgs 5, 23, and 38 modifications per CE 172801, 02, 03, and gas meter house, Bldg 44. The Natural Gas is delivered by the utility company to the meter house at 70 psig, and it is regulated to 50 psig for distribution and use for GRC offices and research test cells, with individual shutoff valves and regulating stations.

The GRC Central Natural Gas Distribution System operates under an Exclusion from NASA STD 8719.17A (No. 08-FRC-038).

### HAZARDOUS MATERIALS/OPERATION IDENTIFICATION & COMMUNICATION

List predominate materials & approximate amounts	H	F	R	S
Natural Gas, 50 psig	1	4	0	



### (Additional materials/chemicals listed in MSDS folder)

SAFETY PERMIT REQUESTER (Print name) Chris Logan	ORGANIZATION FDO0/CHI	WORK PHONE (216) 433-5614	MAIL STOP MS 107-1
SAFETY COMMITTEE CHAIRPERSON (Signature) <i>Donald K. Musick</i> 2/8/13		ACTIVITY COMPLETED - Requester <b>sign</b> and <b>date</b> below, then <b>return</b> to Glenn Safety Office (MS 6-3)	

# SAFETY PERMIT

NATIONAL AERONAUTICS AND  
SPACE ADMINISTRATION  
GLENN RESEARCH CENTER  
CLEVELAND, OHIO

TITLE: Central Natural Gas System Operations and Maintenance

(Limited to 70 characters including blank spaces)

LOCATION  
OF

ACTIVITY: **GRC, Labwide**

PERMIT NUMBER: **001-01-07P**

(Indicate facility name, number, cell)

SAFETY PERMIT

REVIEWERS: B. Hodgson, J. Hritz, and O. Rivera

## SAFETY COMMITTEE CONDITIONS FOR CONDUCTING ACTIVITY: (LIST MINIMUM PERSONAL PROTECTIVE EQUIPMENT REQUIRED)

1. The GRC Central Natural Gas Distribution System operates under an Exclusion from NASA STD 8719.17A (No. 10-GCE-021). The system and its components shall be maintained in accordance to NASA-STD-8719.17A, paragraph 4.2.1. Corresponding maintenance records/documentation shall be created and made available to PSSC at renewal time.
2. The Operations and Maintenance of the Natural Gas Distribution systems shall be performed only by the qualified field personnel on the list posted with this permit, and who are certified per DOT, Part 192. Certifications records shall be kept current at CHI's office.
3. Meter House, Bldg 44 shall be access controlled. An "Authorized Personnel Only - For Access Contact the Main Gate" sign shall be posted at the entrance of Bldg 44.
4. Use of General purpose electrical equipment (including cell phones, pagers, etc) in the Class 1, Division 2 area (within 15 feet radius of the dispensing equipment.) is prohibited.
5. "No Smoking Or Ignition Sources Allowed In This Area" sign shall be posted at all buildings and pits designed to house Natural Gas valves and equipment.
6. All MSDS for compressed Natural Gas shall be at CHI's offices and available to all qualified operators.
7. Maximum system pressure shall not exceed 50 psig.
8. The Natural Gas system at the meter house, Bldg 44 shall be continually monitored by a hydrocarbon gas detector suitable for Natural Gas, with local audible alarm and remote alarm at the GRC fire dispatcher's Office. The unit shall be calibrated at least semi-annually. Proof of compliance shall be submitted to the PSSC prior to renewal of this permit.
9. The systems components and relief valves shall be included in the GRC re-certification and maintenance program, Maximo. Proof of compliance shall be submitted to the PSSC prior of renewal of this permit.
10. A functional check of all protective relays and circuits shall be conducted at least annually.
11. Lockout and tagout procedures shall be in place per GRC Safety Manual, when performing maintenance operations.
12. All Natural Gas piping system shall be grounded and bonded per NFPA 70, NEC, and NFPA 54, SECTION 6.B.1.
13. Ground connections and cables shall be inspected semi-annually, and resistance measurements documented. Ground connectors and grounding studs shall be inspected for corrosion and kept clean and tight. Resistances to ground shall be less than 10 ohms.
14. Natural Gas valve pits shall be treated as Confined Spaces and are subjected to the requirements of Chapter 16 of the GRC Safety Manual.
15. Venting procedures shall be in compliance with section 7.3.3 of the NFPA 54. An Area clearance shall be used prior to venting the main line. Barricades shall be used during venting procedures.
16. Modifications to any part of the Natural Gas distribution system covered under this permit shall be in compliance with B31.8 code - Gas Transmission and Distribution Systems.

SAFETY PERMIT RENEWAL/CHANGE REQUEST	DATE RECEIVED (Completed by Committee Chair)	PERMIT NUMBER (To be provided by Committee)
	1/3/13	601-01-07P

TITLE (From Safety Permit to be renewed or changed. Note proposed title changes below. Limited to 70 characters including blank spaces)  
*Central Nat Gas system ops + maint*

TO: (Provide area number or special committee name) SAFETY COMMITTEE	PERMIT ISSUE DATE	PERMIT EXPIRATION DATE
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FROM: Requester Last Name LOGAN	First Name CHRIS	MI	Organization FDO	Work Phone (216) 433-5614	Mail Stop 107-1
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A review is required of the activities and supporting documentation associated with the safety permit to be renewed or changed. After conducting this review, check the appropriate box below.

☐ This review identified no new hazards and no changes to the design, operations, constraints, information or supporting documentation from the original Safety Permit Request.

☒ This review identified changes which are described in detail below.

☐ This permit covers identified PV/S. All required PV/S component (vessels, relief devices, etc.) have been identified and are in the GRC Pressure Systems Database (PSD). The PV/S RAC(s) have been assessed by the Pressure Systems Office (PSO) and are approved to be of acceptable risk. The PSO RAC acceptance letter and PV/S RAC assessment summary is attached.

#### DESCRIPTION OF CHANGES

(Includes details of changes to the design, operations, constraints, information or supporting documentation from the original Safety Permit Request (e.g. Emergency Contacts) and changes to the supporting documentation (e.g., Qualified Operators List, the NASA C-923a Safety Permit Hazard Analysis Worksheet )

1) Expansion of the GRC natural gas distribution system for a new branch line to Bldg. 152 (SARF).

All changes comply with the latest version of the ASME Code 31.8 throughout all phases of the project.  
 All pressure testing plans will be submitted to SHed and PSO for review prior to any pressure testing.

SAFETY PERMIT REQUESTER (Sign and date) Chris Logan	SUPERVISOR OF REQUESTER (Print name, sign and date) Barry Flowe	WORK PHONE (216) 433-5606
NASA TECHNICAL SUPERVISOR (Required if Safety Permit Requester is a contractor. Print name, sign and date) James Onest	WORK PHONE (216) 433-6217	INSTRUCTIONS: Attach a copy of the original Safety Permit, C-923a-Hazardous Analysis Worksheet, and C-580-Qualified Operators List, to this request along with any modified supporting documentation and send to the Glenn Safety Office. Refer to the Glenn Safety Manual, Chapter 1, for additional information.

NASA C-590 (REV. 6-2005)

**QUALIFIED OPERATORS LIST**DATE RECEIVED  
(Completed by Committee  
Chair)

1/3/13

PERMIT NUMBER  
(To be provided by Committee)

001-01-07P

TITLE (From Safety Permit Request. Limited to 70 characters including blank spaces)  
GRC Natural Gas Utility System OperationLOCATION OF ACTIVITY (Include facility name, number, cell)  
Entire GRC Facility**EXPERIENCE, TRAINING AND OTHER PROGRAM REQUIREMENTS**

(Provide a description of the requirements to be a Qualified Operator. Training requirements can include formal education, work-mandated instruction or classes, and on-the-job training. Other program requirements may involve fitness or medical clearance or a specific program qualification/certification. Examples include, but are not limited to, respirator fit-testing and medical clearance, laser baseline eye exam, audiometric testing, lifting device or "crane" physical, powered-industrial truck "license," etc. Reference written procedures and manuals as appropriate in identifying training, medical and/or other requirements. Line management will implement training and other program requirements to certify Qualified Operator(s) and will review this form at the time of Safety Permit renewal.)

Minimum of two years experience at Glenn Research Center working and or under the supervision of journeyman grade plumbing / pipe fitter personnel, who themselves are qualified to operate, inspect and maintain natural gas piping and its components. Current LOTO training and Confined Space training is required.

**QUALIFIED OPERATORS**

NAME	ORG.	NAME	ORG.
Donald Musick	CHI		
Patrick Daniels	CHI		
Matthew Musick ( Certified)	CHI		

SUPERVISOR(S) OF QUALIFIED OPERATOR(S) (Print name, work phone, sign and date)  
Barry Flowe (216) 433-5606SAFETY PERMIT REQUESTER (sign and date)  
Christopher Logan 1/2/12SUPERVISOR OF REQUESTER (Print name, sign and date)  
Barry FloweWORK PHONE  
(216) 433-5606

NASA TECHNICAL SUPERVISOR (Required if Safety Permit Requester is a contractor. Print name, sign and date)

James Onest

WORK PHONE  
(216) 433-6217

INSTRUCTIONS: Send this form with the Safety Permit Request to the Glenn Safety Office. After GSO review, send form and permit request information to the Area Safety Committee Chair. Place a copy with the posted Safety Permit.

NASA C-580 (REV. 11-2006)